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Abstract

The knowledge of radiative properties of IR materials and coatings are necessary for effective design of IR signature reduction of aerospace vehicles. Two important radiometric parameters that describe radiative properties of materials are emittance and reflectance. In this report, various measurement techniques that characterize IR materials and coatings are discussed. The IR material characterization techniques discussed in this report are calorimetric, radiometric and reflectance techniques. The features of these measurement techniques such as measured parameter, spectral, angular distribution and temperature range are discussed. The factors affecting and steps to improve the accuracy of these measurement techniques are also discussed.